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FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS



## Platte and Arkansas Drainage Basins

By  
Division of Irrigation, Soil Conservation Service  
United States Department of Agriculture  
and  
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineer of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of

APR. 1, 1953

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY  
AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

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FEDERAL-STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION  
WATER SUPPLY FORECASTS

FOR  
PLATTE-ARKANSAS RIVER BASINS

April 1, 1953

Report Prepared

by

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General Series Paper No. 542  
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WATER SUPPLY OUTLOOK  
PLATTE-ARKANSAS DRAINAGE BASIN  
April 1, 1953

Seasonal snow accumulation on the headwaters of the North and South Platte and Arkansas Rivers is from 70 to 80 percent of normal as of April 1. Stream flow during the 1953 snow-melt season will probably be less than indicated by snow measurements because of the extreme deficiency of precipitation in the high mountain areas during the late summer and fall months, particularly September and October. Snow at medium and lower mountain elevations is much less than normal or non-existent. The summer season runoff on all streams will be much less than for the 1952 season. Soil moisture conditions are reported as fair to poor in much of the irrigated areas with some improvement in surface soil moisture as a result of recent light storms.

CHEYENNE RIVER

Snow cover in the Black Hills of South Dakota is above normal for this date. Precipitation has been deficient for several months at valley elevations but soil moisture conditions are described as fair to good. Storage in Belle Fourche reservoir is 65,000 acre-feet as compared to 117,000 on April 1, 1952 and well below average.

NORTH PLATTE RIVER

The seasonal snow accumulation to date is definitely in contrast to a year ago. The overall average snow water content is now 78 percent of normal as compared to 175 percent last year on this date. On the Sweetwater river drainage the snow cover is 75 percent of average. The seasonal runoff of the North Platte into Seminoe Reservoir will be reduced by very dry mountain soils regardless of late season snow. As in other areas, precipitation in the late summer and fall months was extremely deficient. There is no snow reported at lower elevations or in the foothills. The irrigation water supply for 1953 below Pathfinder Reservoir is assured because of high carry-over storage made available by relatively heavy stream flow the past four years and especially 1952. The four major reservoirs were near capacity at the peak of the snow melt season, but the irrigation water demand was unusually high all the summer of 1952. Total storage is now 1,600,000 acre-feet which is near that storage last year at this time. Soil moisture conditions are reported as fair to poor on irrigated areas throughout the valley with some improvement noted in western Nebraska. Stream flow is about normal in Colorado and Wyoming and slightly above normal in Nebraska.

On the Laramie river the snow cover is similar to the North Platte with summer runoff expected to be below average. Soil moisture conditions near Laramie and Wheatland are reported as fair to poor. Storage in Wheatland reservoir is 32,500 acre-feet as compared to 56,000 on April 1, 1952.



#### SOUTH PLATTE

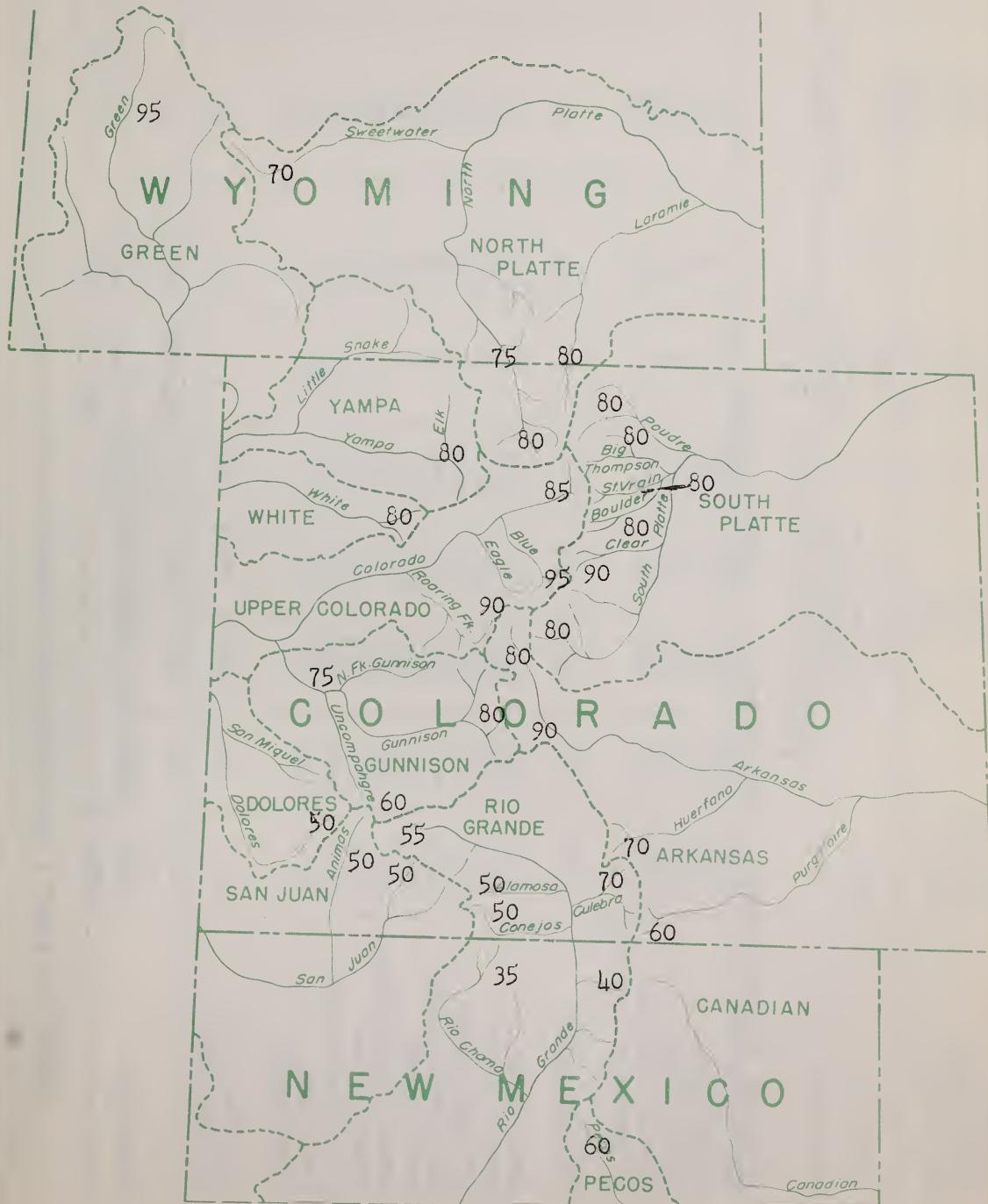
The irrigation water supply outlook for the South Platte and its tributaries is well below average for this date. There was very little snow fall in the mountains during March and seasonal snow accumulation is down to 60 to 90 percent of normal as of April 1. Snow melt season runoff will probably be less than indicated by the snow measurements because of the extreme deficiency in soil moisture under the snow. Precipitation during August, September and October was of practically no value in priming mountain soils. Serious water shortage may be expected in areas where supplemental water from the Colorado-Big Thompson project is not available. Storage in irrigation reservoirs is generally below April 1, 1952 and the past ten year average with a few exceptions. Soil moisture conditions are fair to poor near the mountains although some improvement in surface soil moisture has resulted from recent light storms. In irrigated districts along the lower South Platte soil moisture conditions are reported as fair to good.

#### ARKANSAS

Snow fall on the Arkansas River watershed was well below normal during March. Seasonal snow accumulation on the watershed is now 82 percent of normal. Mountain soil moisture under the snow is extremely deficient although some snow melting has occurred. The surface of the soil under the snow at lower elevations is wet. Summer runoff will probably be less than indicated by current snow measurements. Soil moisture conditions are reported as good at and above Salida but poor at lower elevations below Pueblo. Except for the Twin Lakes Reservoirs there is practically no irrigation water storage in the Arkansas Valley. The combination of deficient precipitation, snow cover and low reservoir storage shows an unfavorable water supply outlook for 1953.



WATER CONTENT OF SNOW ON THE WATERSHEDS OF  
PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS  
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH  
In Percent of Normal  
April 1, 1953



Note: Except for the Rio Grande Drainage snow melt season runoff is expected to be less than indicated by snow water content because of deficient precipitation during the fall months.

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## PLATE-ARKANSAS DRAINAGE BASINS

SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth 1953 Inches	Snow Water Content in Inches				No. of courses in Average	Snow Density 1953 Percent	1953 Water Content in Percent of	
		1953	1952	1951	15 yr. Avg.*			1952	15 yrs avg.*
CHEYENNE RIVER	26.5	8.6	10.2	3.5	7.0	1	32	84	123
PLATTE RIVER									
Sweetwater	31.9	10.3	19.6	14.0	14.7	3	32	53	70
North Platte River	43.3	14.1	24.7	17.7	18.1	14	33	57	78
Laramie River	32.8	11.1	19.7	16.7	14.0	7	34	56	79
South Platte River**	19.9	4.7	10.4	7.7	6.5	5	24	45	72
Poudre River	32.5	10.9	18.3	16.7	13.3	6	34	59	82
Big Thompson River	32.3	11.1	18.8	18.2	14.1	3	34	59	79
St. Vrain River	28.4	7.2	14.4	13.1	9.8	3	25	50	72
Boulder Creek	33.5	10.3	18.0	18.2	12.9	3	31	57	80
Clear Creek	40.5	13.1	21.0	14.7	14.2	3	32	62	92
ARKANSAS RIVER	34.1	9.7	18.7	12.6	11.8	.9	28	52	82
COLORADO-BIG THOMPSON									
Colorado River***	39.8	12.2	22.4	18.7	15.5	6	31	54	79
Willow Creek	27.2	7.7	16.5	9.6	11.0	3	28	47	70
Frazer River	35.9	10.0	20.2	15.4	13.0	3	28	50	77
Blue River	49.9	15.5	23.3	21.8	16.8	4	31	67	92

\*Some for shorter periods      \*\*Above Denver      \*\*\*Above Granby

## PRECIPITATION DATA\*

WATERSHED	STATE	Precipitation		Departure from Normal	Precipitation	Departure from Normal	Departure from Normal
		October 1 to March 31	Inches		Inches		
North Platte	Wyoming			-1.80	0.39	-0.80	-0.31
South Platte	Colorado	3.81		-1.83	0.86	1.14	-0.13
Arkansas	Colorado	3.28					
		3.69					

\*Average selected high elevation stations



**PLATTE-ARKANSAS DRAINAGE BASINS**  
**STREAM FLOW FORECASTS, April 1, 1953**

Basin and Stream	April-Sept., Incl., Streamflow, Acre Feet				10-year Avg. 1941-1950
	Forecast 1953	1952	1951	1950	
<b>NORTH PLATTE</b>					
Sweetwater at Alcova	40,000		74,000		81,000
North Platte at Saratoga	400,000	1,053,000	710,000	678,000	648,000
Medicine Bow near Hanna	65,000		91,000	94,000	116,000
Laramie at Jelm	65,000	124,000	126,000	76,000	94,000
Laramie at Lookout	60,000		117,000	67,000	84,000
<b>SOUTH PLATTE</b>					
Poudre at Canon	165,000	256,000	283,000	186,000	250,000
Big Thompson at Drake	70,000*	154,000	190,000**	104,000	112,000
Saint Vrain at Lyons	55,000	121,000	108,000	59,000	88,000
Boulder at Orodeill	40,000		70,000	39,000	53,000
Clear Creek at Golden	115,000		157,000	103,000	145,000
<b>ARKANSAS</b>					
Arkansas at Salida	250,000	533,000	384,000	305,000	327,000
Arkansas at Pueblo	275,000		290,000	249,000	374,000
Cucharas at La Veta	8,000			5,000	2,500
Purgatoire at Trinidad	20,000			12,000	18,500

\*Excluding Diversions  
 \*\*Including Diversions



## STATUS OF RESERVOIR STORAGE PLATTE-ARKANSAS BASIN, April 1, 1953

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE About April 1				10-year Avg.* 1943-1952
			1953	1952	1951	1950	
MISSOURI RIVER							
Poudre River	Windsor	18.6	4.1	13.4	8.2	11.9	12.0
"	Cache la Poudre	9.5	7.7	8.7	6.2	8.2	7.1
"	Fossil Creek	11.6	10.8	10.1	7.1	8.6	7.8
"	Terry Lake	8.2	4.1	4.8	4.2	4.4	4.7
"	Halligan	6.4	3.7	1.6	0.0	0.0	1.2
"	Chamber's Lake	8.8	1.7	2.9	1.9	2.3	2.3
"	Cobb Lake	34.3	11.2	7.0	4.9	11.3	6.7
"	Black Hollow	8.0	4.1	2.6	0.7	5.0	3.9
Big Thompson River	Lake Loveland	14.3	6.1	9.1	2.7	5.9	5.2
"	Boyd Lake	14.0	16.8	22.6	7.8	26.4	21.7
"	Lone Tree	9.2	7.1	8.8	7.8	6.6	6.6
"	Mariano	5.4	3.7	5.1	0.1	1.8	2.7
St. Vrain River	Union	12.7	9.1	12.3	3.4	6.1	8.4
South Platte River	Eleven Mile	81.9	81.9	81.9	72.3	81.9	80.9
"	Cheeseman	79.0	54.7	31.0	22.6	62.7	56.2
"	Marston	18.9	13.3	12.5	14.6	12.3	15.1
"	Barr Lake	32.2	20.2	25.7	17.6	24.6	23.7
"	Milton	24.4	13.3	18.9	6.7	16.8	14.2
"	Standley	18.5	11.0	14.6	8.3	10.7	12.4
"	Marshall	10.3	1.5	4.9	1.6	1.8	2.7
"	Antero	33.0	10.2	8.6	19.8	21.0	18.5
"	Horse Creek	20.6	12.8	14.9	10.9	14.1	11.9
"	Riverside	57.5	53.9	58.6	50.8	59.3	54.5
"	Empire	37.7	32.5	32.8	28.4	35.2	31.7
"	Jackson Lake	35.4	34.3	34.1	33.8	34.0	33.3
"	Prewitt	32.8	25.4	25.2	19.8	30.0	25.1
"	Point of Rocks	70.0	62.2	69.5	57.6	69.2	63.5
"	Julesburg	28.2	21.9	21.5	21.7	21.2	21.3

\*Some for shorter periods

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BASIN AND STREAM	RESERVOIR	RESERVOIR STORAGE (Cont.)					10-year Avg.*
		USABLE CAPACITY (Thous.A.F.)	1953	1952	1951	1950	
North Platte River	Kingsley	2180.0	1796.0	1799.0	1820.0	1798.6	1369.7
" " "	Sutherland	185.0	52.0	58.0	56.5	43.8	49.2
" " "	Miratare	60.8	25.0	31.2	28.4	27.2	24.7
" " "	Alcova	190.0	155.7	159.0	169.7	154.8	96.7
" " "	Seminole	1025.0	583.2	536.0	524.3	573.8	405.9
" " "	Gurnsey	46.0	39.4	39.9	44.0	30.0	41.9
" " "	Pathfinder	1045.5	866.5	932.0	963.1	920.0	594.9
Laramie River	Wheatland	79.4	32.5	58.0	45.6	52.3	44.9
ARKANSAS RIVER	Twin Lakes	57.9	25.2	21.6	11.2	23.7	27.0
Arkansas River	Sugar Loaf	17.4	5.5	19.2	5.2	6.8	9.5
" " "	Clear Creek	11.4	2.2	4.5	0.6	6.8	6.1
" " "	Meredith	41.9	0.0	0.0	0.0	4.7	21.8
" " "	Horse Creek	26.9	0.0	0.0	0.0	6.7	10.9
" " "	Adobe Creek	61.6	0.0	8.5	0.0	29.0	33.3
" " "	Cucharas	40.0	0.0	6.1	1.9	4.0	6.1
" " "	Two Buttes	40.9	--	27.4	31.5	17.1	10.8
" " "	John Martin	655.0	20.4	46.3	80.0	655.0	77.9
" " "	Great Plains	150.0	20.1	22.5	45.8	150.0	76.1
Purgatoire River	Model	15.0	1.1	0.3	0.2	15.0	3.1
CHEYENNE RIVER	Belle Fourche	198.1	65.3	117.7	94.3	93.0	131.0
Cheyenne River	Angostura	160.0	96.7	109.0	32.0	--	-- *
COLORADO-BIG THOMPSON	Blue River	146.9	86.9	84.7	63.2	68.4	55.8
Colorado River	Granby	467.5	424.0	279.0	--	--	--
Poudre River	Horsetooth	143.5	126.0	72.0	--	--	--

\*Some for shorter periods



PLATTE-ARKANSAS RIVERS SNOW SURVEYS  
April 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Cover Measurements			Yrs. Record	Av. Water Content
					1953	1952	1951		
CHEYENNE RIVER Upper Spearfish	1 S.Dak	6500	3/30	26.5	8.6	10.2	3.5	9	7.0
PLATTE RIVER									
SWEETWATER RIVER									
Grannier Meadows	29 Wyo.	9000	3/31	36.0	12.1	22.9	13.3	16	14.0
South Pass*	47 "	9000	3/31	36.0	12.3	23.1	14.8	13	13.5
Larsen Creek	57 "	9000	3/23	23.8	6.5	12.8	13.9	3	16.5
Average for drainage				31.9	10.3	19.6	14.0		14.7
NO. PLATTE RIVER									
Cameron Pass	1 Colo.	10300	3/31	54.0	18.8	28.8	25.0	17	21.8
Park View	7 "	9200	3/30	26.3	5.8	16.9	8.7	17	10.7
Columbine Lodge	8 "	9300	3/30	63.1	23.9	33.4	29.7	17	23.7
Willow Cr. Pass*	62 "	9500	3/30	36.2	10.5	20.5	12.6	15	13.5
Northgate	136 "	8500	3/27	46.0	3.8	9.6	5.4	3	7.0
Bottle Creek	7 Wyo.	8200	3/27	36.4	13.3	23.2	13.9	17	15.0
Webber Spring	8 "	9000	3/27	41.6	16.1	29.8	19.0	17	20.1
Old Battle	9 "	9800	3/27	68.5	26.0	47.8	33.3	17	33.2
N. French Creek	37 "	10200	3/30	61.1	23.6	37.4	34.2	15	30.7
N. Barrett Creek	38 "	9400	3/30	41.3	13.6	27.0	18.8	17	20.4
Ryan Park	39 "	8400	3/30	25.3	6.4	17.8	10.3	17	11.7
Spring Creek	67 "	9000	3/30	36.2	13.6	25.4	15.2	4	21.7
Albany	68 "	9400	3/28	38.9	12.4	18.3	17.8	4	17.2
La Bonte	69 "	6450	--	--	--	10.4	6.3	4	8.4
Boxelder	70 "	9000	3/27	27.8	9.2	9.7	4.4	3	6.5
Pearl	71 "	8900	--	--	--	9.6	5.4	2	
Average for drainage				43.3	14.1	24.7	17.7		18.1
LARAMIE RIVER									
Roach	88 Colo.	9800	3/29	39.6	12.6	26.5	20.6	13	19.5
McIntyre	111 "	9100	--	--	--	15.9	12.2	4	13.3
Brooklyn Lake	3 Wyo.	10200	4/1	62.2	24.7	34.4	32.3	17	25.2
Fox Park	11 "	9200	4/1	14.9	4.6	12.0	8.9	17	8.5
Pole Mtn. #2*	34 "	8700	4/1	6.0	1.6	11.2	3.1	17	5.3
Libby Lodge	35 "	8700	4/1	32.1	10.2	17.4	15.9	17	10.2
Hairpin Turn	36 "	9500	4/1	35.8	11.8	18.0	18.4	17	12.0
Albany	68 "	9400	3/28	38.9	12.4	18.3	17.8	4	17.2
Average for drainage				32.8	11.1	19.7	16.7		14.0
POUDRE RIVER									
Cameron Pass	1 Colo.	10300	3/31	54.0	18.8	28.8	25.0	17	21.8
Chambers Lake	2 "	9000	3/28	16.7	6.9	12.5	11.3	17	8.3
Big South	3 "	8600	3/28	1.3	0.4	3.2	3.5	17	2.8
Deadman Hill	50 "	10200	4/1	36.0	10.7	23.3	18.2	16	15.3
Lake Irene*	65 "	10600	3/29	53.8	20.4	30.8	30.2	15	22.3
Hour Glass Lake	68 "	9500	4/4	33.1	8.1	11.2	12.2	13	9.2
Red Feather	128 "	9000				13.1	8.8	4	10.9
Lost Lake	156 "	9300	3/28	26.5	7.8	16.5	14.4	2	
Average for drainage				32.5	10.9	18.3	16.7		13.3



PLATTE-ARKANSAS RIVERS SNOW SURVEYS  
 April 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Course Measurements				
					Water Content			Past Yr., Rec.	Av. Water Content
					1953	1952	1951		
BIG THOMPSON RIVER					In.	In.	In.	In.	In.
Lake Irene*	65 Colo.	10600	3/29	53.8	20.4	30.8	30.2	15	22.3
Hidden Valley	95 "	9550	3/30	31.9	9.4	17.0	15.6	12	12.5
Deer Ridge	115 "	9050	3/30	11.1	3.4	8.5	8.9	4	7.6
Longs Peak	148 "	10500	3/29	27.8	7.5	18.5	--	2	
Average for drainage				32.3	11.1	18.8	18.2		14.1
ST. VRAIN RIVER									
Wild Basin	41 "	10000	4/1	45.1	13.1	24.5	21.6	17	14.8
Copeland Lake	116 "	8600	3/30	13.5	3.3	9.8	7.8	4	7.0
Ward	134 "	9500	4/1	26.5	5.2	9.0	9.8	3	7.7
Average for drainage				28.4	7.2	14.4	13.1		9.8
BOULDER CREEK									
E.Port,Moffat T.	5 Colo.	9400	4/2	18.8	4.8	5.6	5.8	17	3.8
University Camp	60 "	10300	2/29	51.2	19.5	34.4	34.0	15	22.6
Moffat	133 "	9400	4/2	30.4	6.7	14.0	14.8	3	12.3
Boulder Falls	162 "	10000	3/29	36.1	13.8	20.7	--	2	
Average for drainage				33.5	10.3	18.0	18.2		12.9
CLEAR CREEK									
Loveland Pass	61 "	10600	3/28	49.8	17.3	24.0	19.0	17	14.5
Grizzly Peak*	97 "	11250	3/28	45.2	14.7	27.0	24.3	11	19.1
Empire	117 "	9650	3/29	26.6	7.3	12.0	10.9	4	8.9
Berthoud Falls	137 "	10500	3/29	41.8	11.4	20.0	19.5	2	
Clear Creek	159 "	11200	3/28	49.9	15.3	25.0	24.6	2	
Average for drainage				40.5	13.1	21.0	14.7		14.2
SOUTH PLATTE RIVER									
Hoosier Pass	14 Colo.	11400	4/1	41.7	10.6	19.0	17.6	17	12.8
Fairplay	15 "	10000	4/1	0.0	0.0	4.0	0.0	16	1.1
Jefferson Cr.	83 "	10100	4/1	40.1	8.6	14.4	12.7	13	9.1
Geneva Park	118 "	9750	3/31	14.4	2.9	7.7	6.9	4	5.8
Antero	120 "	9200	3/31	3.3	1.2	7.1	1.4	4	3.7
Average for drainage				19.9	4.7	10.4	7.7		6.5
ARKANSAS RIVER									
Tennessee Pass	19 Colo.	10200	3/31	36.4	7.4	19.1	13.2	17	9.8
Twin Lakes T.	21 "	10500	4/1	32.4	8.5	15.3	14.5	17	10.7
Whiskey Creek	72 "	10300	3/30	4.2	1.4	12.0	1.0	16	6.8
La Veta Pass*	74 "	9300	4/1	17.2	5.7	17.6	5.5	17	8.6
4-Mile Park	78 "	9700	3/30	16.8	1.5	7.5	6.3	17	3.6
Fremont Pass	79 "	11400	3/31	51.6	17.2	23.0	22.9	17	16.7
Blue Lakes	81 "	10000	4/1	16.8	5.1	13.2	5.8	15	7.0
Monarch Pass	92 "	10500	3/31	59.4	17.5	30.9	21.1	12	19.0
Timberline	121 "	11100	3/30	66.5	22.7	29.6	23.2	4	23.7
Cooper Hill	165 "	10600	3/30	34.1	9.6	16.3	--		
East Fork	166 "	10700	3/31	34.4	7.4	16.7	--		
Average for drainage				34.1	9.7	18.7	12.6		11.8

\*On adjacent drainage



PLATTE-ARKANSAS RIVERS SNOW SURVEYS  
April 1, 1953

Drainage Basin and Snow Course	No. and State	Elev.	Date of Survey	Snow Depth	Snow Cover Measurements				Past Record	Av. Water Content
					1953	1952	1951	In.		
COLORADO RIVER**										
Cameron Pass*	1 Colo.	10300	3/31	54.0	18.8	28.8	25.0	17	21.8	
Phantom Valley	12 "	9300	3/30	29.0	8.2	19.0	13.5	17	10.6	
Lulu	59 "	10200	3/30	46.3	11.3	21.7	21.7	15	17.5	
N. Inlet Grand L.	64 "	9000	3/28	28.0	8.5	17.9	11.3	15	9.9	
Lake Irene	65 "	10600	3/29	53.8	20.4	30.8	30.2	15	22.3	
Grand Lake	127 "	8600	3/30	27.6	6.0	16.1	10.5	4	11.0	
Average for Drainage				39.8	12.2	22.4	18.7		15.5	
WILLOW CREEK										
Park View*	7 Colo.	9200	3/30	26.3	5.8	16.9	8.7	17	10.7	
Willow Creek	62 "	9500	3/30	36.2	10.5	20.5	12.6	15	13.5	
Granby	113 "	8700	3/29	19.0	6.8	12.0	7.6	4	8.9	
Average for Drainage				27.2	7.7	16.5	9.6		11.0	
FRAZER RIVER										
Berthoud Pass	16 Colo.	9700	4/1	44.3	13.3	23.4	18.3	17	16.4	
Arrow	69 "	9900	4/1	30.8	7.9	18.5	12.5	15	10.5	
Lapland	70 "	9500	4/1	32.7	8.7	18.8	15.4	15	12.0	
Berthoud Summit	138 "	11300	3/29	56.0	17.3	24.0	19.7	2		
Frazer View	139 "	10600	4/1	39.0	11.6	16.0	13.4	2		
Average for Drainage				35.9	10.0	20.2	15.4		13.0	
BLUE RIVER										
Hoosier Pass	14 Colo.	11400	4/1	41.7	10.6	19.0	17.6	17	12.8	
Fremont Pass	79 "	11400	4/1	57.6	17.2	23.0	22.9	17	16.7	
Shrine Pass	96 "	10500	4/1	55.0	19.4	24.1	22.4	11	18.4	
Grizzly Peak	97 "	11250	3/28	45.2	14.7	27.0	24.3	11	19.1	
Frisco	146 "	9300	4/1	28.8	8.3	12.0	11.4	2		
Snake River	147 "	9700	3/28	23.0	5.6	14.0	13.3	2		
Summit Ranch	158 "	10000	3/28	20.0	5.9	15.0	11.7	2		
Kokomo	167 "	10600	3/29	43.2	11.0	15.8				
Average for drainage				49.9	15.5	23.3	21.8			

\* On adjacent drainage

\*\*Above Grandy Reservoir



LIST AND LOCATION OF SNOW COURSES

Platte, Arkansas, Colorado  
and Rio Grande Drainages

No.	Name	Sec.	Twp.	Rge.	Elev.	No.	Name	Sec.	Twp.	Rge.	Elev.
	<u>Cheyenne</u>						<u>Upper Colorado</u>				
1 SD	Upper Spearfish	21	3N	1E	6500	12 C	Phantom Valley	7	5N	76W	9300
	<u>North Platte</u>					16 C	Berthoud Pass	35	2S	75W	9700
7 C	Park View	24	5N	78W	9200	37 C	M. F. Camp Ground	16	3S	77W	9000
8 C	Columbine	21	5N	82W	9300	59 C	Fiddler Gulch	1	8S	80W	11000
136 C	Northgate	7	11N	79W	8500	64 C	N. Inlet Grand Lake	26	4N	75W	3000
7 W	Bottie Creek	24	14N	85W	8200	65 C	Lake Irene	8	5N	75W	10600
8 W	Webber Spring	27	14N	85W	9000	69 C	Arrow	34	1S	75W	9900
9 W	Old Battle	29	14N	85W	9800	70 C	Lapland	16	2S	76W	9500
37 W	North French Creek	27	16N	80W	10200	79 C	Fremont Pass	2	8S	76W	11400
38 W	North Barrett Creek	30	16N	80W	9400	91 C	Ixion Pass	27	2N	88N	9100
39 W	Ryan Park	34	16N	81W	8400	96 C	Shrine Pass	15	6S	79W	10500
67 W	Spring Creek	32	15N	85W	9000	97 C	Grizzly Peak	2	5S	76W	11250
68 W	Albany	18	14N	78W	9400	102 C	Glen-Mar Ranch	31	2S	77W	8850
71 W	Pearl	18	12N	82W	8900	106 C	Monarch Lake	30	2N	74W	8500
	<u>Laramie</u>					112 C	Granby	11	2N	77W	8700
88 C	Roach	5	10N	77W	9800	127 C	Grand Lake	36	4N	75W	8600
111 C	McIntyre	35	10N	76W	9100	138 C	Berthoud Summit	10	2S	75W	11300
3 W	Brooklyn Lake	11	16N	78W	10200	139 C	Frazer View	34	2S	75W	10600
11 W	Foxpark	21	13N	78W	9200	143 C	Gore Pass	2	1N	82N	9800
35 W	Libby Lodge	29	16N	78W	8700	146 C	Frisco	16	6S	78W	9300
36 W	Hairpin Turn	24	16N	79W	9500	147 C	Snake River	9	5S	76W	9700
	<u>Sweetwater</u>					158 C	Summit Ranch	8	4S	78W	10000
29 W	Grannier Meadows	19	30N	100W	9000	163 C	Vail Pass	28	5S	79W	10000
47 W	South Pass	13	30N	101W	9000	167 C	Kokomo	23	7S	79N	10600
57 W	Larson Creek	12	30N	103W	9000		Rando	10	7S	83W	9500
	<u>Laramie Peaks District</u>						<u>Roaring Fork</u>				
39 W	La Bonte	11	27N	74W	8450	33 C	Ind. Pass Tunnel	30	11S	82W	10700
70 W	Boxelder	31	30N	75W	9000	34 C	North Lost Trail	20	11S	87N	9200
						45 C	Nast	1	9S	83N	8700
						100 C	Ivanhoe	12	9S	82W	10400
						144 C	Ruby	1	12S	83N	11500
	<u>South Platte</u>										
1 C	Cameron Pass	2	6N	76W	10300		<u>Yampa</u>				
2 C	Chambers Lake	6	7N	75W	9000	6 C	Dry Lake	26	7N	84W	8500
3 C	Big South	33	8N	75W	8600	9 C	Eik River	21	5N	82W	9300
5 C	East Portal	2	2S	74W	9400	140 C	Routt Line	13	5N	85N	9700
14 C	Hoosier Pass	13	8S	78W	11400	141 C	Rabbit Ears	30	5N	85N	9550
15 C	Fairplay	33	9S	77W	10000	142 C	Yampa View	21	5N	84W	8500
41 C	Wild Basin	24	3N	74W	10000		<u>White</u>				
50 C	Deadman Hill	26	10N	75W	10200		Burro Mountain	15	2S	91W	9000
60 C	University Camp	26	1N	75W	10300	35 C	Rio Blanco	28	1N	88N	8500
61 C	Loveland Pass	27	4S	76W	10600	36 C					
68 C	Four Glass Lake	18	7N	75W	9500		<u>Plateau Creek</u>				
83 C	Jefferson Creek	14	7S	76W	10100		Mesa Lakes	35	11S	96W	10000
95 C	Hidden Valley	23	5N	75W	9550	56 C	Friggle Divide	23	11S	94N	10000
115 C	Deer Ridge	19	5N	75W	9050	85 C					
116 C	Copeland Lake	21	3N	75W	8600		<u>Gunnison River</u>				
117 C	Empire	21	3S	75W	9650		Crested Butte	22	13S	86W	9000
118 C	Geneva Park	18	6S	74W	9750	18 C	Park Cone	19	14S	82N	9700
120 C	Antero	1	13S	77W	9200	46 C	Alexander Lake	2	12S	25W	10000
128 C	Red Feather	26	10N	74W	9000	53 C	Snowshoe Mesa	14	13S	89W	7500
133 C	Moffatt	2	2S	74W	9400	55 C	Ironton Park	29	4S	7W	9800
154 C	Ward	1	1N	75W	9500	58 C	Park Reservoir	34	11S	94W	9500
137 C	Berthoud Falls	16	3S	75W	10500	87 C	Porphyry Creek	19	49N	6E	10800
148 C	Longs Peak	32	4N	75W	10500	89 C	Kannah Creek	5	12S	95W	10700
156 C	Lost Lake	32	8N	75W	9300	101 C	Lake City	13	4S	4W	10300
34 C	Pole Mountain	35	15N	72W	8700	104 C	McClure Pass	1	11S	89W	9500
	<u>Arkansas River</u>					132 C	Red Mountain	13	42N	8W	11000
19 C	Tennessee Pass	21	8S	80W	10200	153 C					
21 C	Twin Lakes Tunnel	22	11S	82W	10500		<u>San Juan</u>				
72 C	Whiskey Creek		37.2N	108W	10300	29 C	Upper San Juan	10	37N	1E	10000
74 C	La Veta Pass	22	28S	70W	9300	30 C	Silverton	10	41N	7W	9400
78 C	Four Mile Park	23	11S	81W	9700	31 C	Cascade	12	39N	9W	8850
81 C	Blue Lakes	30	31S	69W	10000	135 C	La Plata	4	36N	11W	9700
92 C	Monarch Pass	16	49N	6E	10500	149 C	Spud Mountain	32	40N	8W	10700
119 C	Saint Elmo	31	16S	80W	10600	150 C	Molas Lake	7	40N	7W	10500
121 C	Timberline	8	9S	81W	11100	151 C	Howardville	15	41N	7W	9800
165 C	Cooper Hill	2	8S	80W	10600	152 C	Mineral Creek	36	42N	8W	10300
166 C	East Fork	9	8S	79W	10700						

LIST AND LOCATION OF SNOW COURSES (CONTINUED)

No.	Name	Sec.	Twp.	Rge.	Elev.	No.	Name	Sec.	Twp.	Rge.	Elev.
<u>Dolores</u>											
23 C	Rico	11	39N	11W	8700	7 A	Iron Springs	22	14N	3W	6000
24 C	Telluride	6	42N	8W	8600	15 A	Willow Ranch	16	21N	11W	5000
25 C	Lizard Head	24	41N	10W	10300						
114 C	Trout Lake	8	41N	9W	9700						
<u>Arizona (Williams)</u>											
						9 A	Chalender	27	22N	3E	7100
						10 A	Grand Canyon	21	30N	4E	7500
						11 A	Bright Angel	34	33N	4E	8400
<u>Arizona (Lower Colorado)</u>											
<u>Green</u>											
23 W	Dutch Joe	33	31N	104W	8700						
24 W	Mulligan Park	17	35N	108W	8900						
25 W	Kendall R. S.	23	38N	110W	7900						
26 W	Loomis Park	14	37W	111W	8500	26 C	<u>Rio Grande</u>	4	37N	2E	10000
27 W	Snyder Basin	15	29N	114W	8040	27 C	Wolf Creek				
28 W	Piney La Barge	19	29N	114W	8820	27 C	Upper Rio Grande	13	40N	4W	9250
						27 C	Silver Lakes	15	36N	5E	9600
						47 C	River Springs	25	33N	6E	9200
						49 C	Summitville	30	37N	4E	11500
						76 C	Cumbres Pass	17	32N	5E	10000
11 NM	Frisco Divide	21	6S	20W	8000	77 C	Santa Maria	6	41N	2W	9700
14 NM	State Line	5	6S	21W	8000	80 C	Culebra				
22 NM	Taylor Creek	20	10S	10W	7850	82 C	Fort Garland	13	29N	72W	8200
23 NM	Imman	6	11S	10W	7800	84 C	Platoro	22	36N	4W	9950
1 A	Nutrioso	23	6N	30E	8500	108 C	West Conejos	25	35N	4E	9450
2 A	Beaver Head	13	4N	30E	8000	109 C	La-Manga	11	33N	5E	10000
3 A	Coronado Trail	26	5N	30E	8000	110 C	Pyramid	26	41N	5W	10300
29 A	Rose Canyon	15	12S	16E	7300	122 C	Spring Creek Pass	2	42N	3W	10900
30 A	Bear Wallow	6	12S	16E	8100	123 C	Pool Table Mt.	19	41N	2E	10000
						124 C	Lake Humphrey	32	40N	1E	9300
						125 C	Cochetopa Pass	12	45N	3E	10000
						155 C	Porcupine	2	41N	3W	10400
							Wolf Creek Summit	6	37N	2E	11000
<u>Arizona (Salt)</u>											
4 A	McNary	14	8N	23E	7200	126 C	Red River	29	28N	15E	9500
5 A	Forest Dale	2	9N	21E	6000	154 C	Taos Canyon	10	25N	15E	9000
6 A	Milk Ranch	28	8N	23E	7000	155 C	Aspen Grove	12	18N	10E	9100
20 A	Pacheta					9 NM	Hematite Park	8	28N	15E	9500
21 A	Fort Apache	18	7N	27E	9000	12 NM	Tres Ritos	23	22N	13E	9000
22 A	Baldy	28	7N	27E	9000	15 NM	Payrole	16	28N	7E	9700
23 A	Maverick Fork	13	6N	27E	9050	17 NM	Chama Divide				
31 A	Workman Creek	33	6N	14E	5860	18 NM	Chamita				
						20 NM	Cordova	22	22N	13E	10100
						21 NM	Panchuela	27	19N	12E	8300
						22 NM	Big Tesque	17	18N	11E	10000
						24 NM	Elk Cabin	8	18N	11E	8250
						26 NM	Rio En Medio	8	18N	11E	10400
						28 NM	Quemazon	34	20N	5E	9300
						29 NM	Bateman	5	26N	6E	9300
						31 NM	Fenton Hill	18	19N	3W	8900
<u>Arizona (Little Colorado)</u>											
12 A	Fort Valley	22	22N	6E	7350						
13 A	Mormon Lake	13	18N	8E	7350						
19 A	Mormon Mountain	14	18N	8E	7500						
<u>Arizona (Verde)</u>											
8 A	Camp Wood	3	16N	6W	5700						
16 A	Antelope Park	29	19N	8E	7300						
17 A	Casner Park	19	18N	8E	6930						
18 A	Munds Park	7	18N	7E	6500						

SD - South Dakota; C - Colorado; W - Wyoming; A - Arizona; NM - New Mexico



Federal - State - Private  
COOPERATIVE SNOW SURVEYS

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Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

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"WATER IS THE WEST'S GREATEST RESOURCE"